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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,973	02/14/2001	Frank Kelly	PD-200323	1992
7590	08/18/2004		EXAMINER	
Hughes Electronics Corporation Patent Docket Administration Bldg. 1, Mail Stop A109 P.O. Box 956 El Segundo, CA 90245-0956			SHAHRIER, SHARIF M	
		ART UNIT	PAPER NUMBER	
		2664		
DATE MAILED: 08/18/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/782,973	KELLY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sharif M Shahrier	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on \_\_\_\_.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-32 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) :  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/29/2004.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Abstract***

1. The abstract of the disclosure is objected to because of the presence of the title in the Abstract page. The title must be removed. See MPEP § 608.01(b).

### ***Claim Rejections***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claim 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Bradshaw (US 6,674,731).

Regarding claims 1, 9 and 17, Bradshaw teaches the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units (abstract, ln 1-2).

Bradshaw further teaches user terminals (col. 4 ln. 58-61) (**hosts**) connected to remote units (col. 4, ln 65-67) (**terminal unit**). The remote unit contains the receiver unit (col 4 ln 14-15, Fig. 10). The remote unit also contains a transmitter unit (Fig. 8) for two-way satellite communication.

Bradshaw further teaches that the hub uses standard DVB format data frames (col 3 ln 47-49). Its inherent that the receiver must contain MAC to DVB converter (col 12, ln 38-40) to conform to the DVB protocol format that is supported by the hub (col 3 ln 49).

Bradshaw further teaches RF receiver coupled to an antenna to permit exchange of data between remote terminal and the satellite (Fig. 10). Its inherent that a demodulator must be present in the RF receiver for demodulating the signal sent over the satellite link. The data frame conforms to the DVB protocol format, i.e. the return channel frame format (col. 3 ln 49).

The satellite-to-hub interface is inherent in the specification of Bradshaw. The hub station (Fig. 2, elmt 104) is shown with antenna and RF transmitter/receiver (inherent). These are components of the satellite-to-hub interface.

Bradshaw further teaches that the hub is connected to an external packet switched network (Fig. 2, elmt 24, col 4 ln 25-29), which in this case is Internet. Its inherent that the hub must be able to convert protocol data frame received over satellite link to requests to the content servers (col 5 ln 13-17).

Support for multi-layer protocol interface for hub-to-terminal interface is given by Bradshaw in that TCP/IP data is encapsulated into a MAC data frame (col 7 ln 62-63), and also the TCP/IP frames may be formatted within a DVB frame (col 8 ln 47-51).

Regarding claims 4, 12 and 20, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claims 1, 9 and 17, and Bradshaw further teaches that MPEG format data is packaged into a DVB protocol format (col 2 ln 66-67), and TCP/IP data is encapsulated into a Ethernet MAC data frame (col 7 ln 62-63), i.e. multi-layer protocol with support for DVB.

Regarding claim 5, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 1, and Bradshaw further teaches that the data exchanged over the satellite link is TCP/IP (col 3 line 37-39).

Regarding claim 8, 16 and 24, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 1, 9 and 17, and Bradshaw further teaches that the packet switched network is Internet (Fig. 2 elmt 24).

Regarding claim 13, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 9, and Bradshaw further teaches about IP (col 7 ln 62-63), a transmission protocol standardized by IETF and may be used for variety of interfaces including interfacing the receiver unit with the transmitter unit.

Regarding claim 21, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 17, and Bradshaw further teaches about IP (col 7 ln 62-63), Internet protocol for transmitting data.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, 3, 10, 11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw, in view of Gernert (US 6,600,734).

Regarding claims 2, 10 and 18, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 1, 9 and 17. Bradshaw does not explicitly disclose transmission of data bursts from terminal to the host.

However, Gernert does teach several bus standards for connecting the host (col 10 ln 47-48). It is common knowledge that these buses can support bursty data in conformance with most video traffic patterns.

In view of this, having the system of Bradshaw and then given the teaching of Gernert, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw to incorporate the teachings of Gernert.

The motivation to combine is because Bradshaw discloses terminals connected to hosts via local area network **116**. This can be a standardized bus such as IEEE 802.6 (Distributed Queue Dual Bus (DQDB)) for conveying bursty traffic such as video. A standardized bus tailored for bursty real-time traffic such as video has the advantage of better performance characteristics.

Regarding claims 3, 11 and 19, Bradshaw and Gernert discloses all aspects of the claimed invention set forth in the rejection of claims 1, 2, 9, 10, 17 and 18.

Bradshaw does not explicitly disclose a USB serial bus.

However, Gernert does teach about USB serial buses (col 10 ln 47-48).

In view of this, having the system of Bradshaw and then given the teaching of Gernert, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw to incorporate the teachings of Gernert.

The motivation to combine is because Bradshaw discloses terminals connected to hosts via local area network 116 (Fig. 2), which can be a USB serial bus as taught by Gernert. The advantage of USB is that it is a universal standard, and therefore should be compatible for attachment to a wide variety of devices.

Claim 6, 14 and 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw, in view of Birdwell (US 2001/0024435).

Regarding claim 6, 14 and 22, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 1, 9 and 17.

Bradshaw does not explicitly disclose big/little endian data formats.

However, Birdwell discloses endian formats for packets transmitted using IP over a satellite link (para.58, ln 5-13).

In view of this, having the system of Bradshaw and then given the teaching of Birdwell, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw to incorporate the teachings of Birdwell.

The motivation to combine is because endian formats aid in determining whether the 1<sup>st</sup> byte in the transmission word is the Most Significant Byte (MSB) or the Least Significant Byte (LSB), so subsequent data alignment can be achieved at the receiver, for synchronization and CRC calculations.

Claim 7, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw, in view of Jorgensen (US 6,680,922).

Regarding claim 7, 15 and 23, Bradshaw discloses all aspects of the claimed invention set forth in the rejection of claim 1, 9 and 17.

Bradshaw does not explicitly disclose IGD packets.

However, Jorgensen does teach UDP (User Datagram Protocol) for transmission of packets over a wireless link (col 12 ln 46-48). The applicant states in the specification (p. 31 ln 6) that IGD packets are formed using UDP datagrams. Its inherent that UDP datagrams (IGD packets) can convey all sorts of parameters about the wireless link, including the return channel identifier and loading information.

Claim 25, 28, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw, in view of Dillon (US 6,338,131).

Regarding claims 25, Bradshaw teaches the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units (abstract, ln 1-2). Bradshaw further teaches user terminals (col. 4 ln. 58-61) (**hosts**) connected to remote units (col. 4, ln 65-67) (**terminal unit**). The remote unit contains the receiver unit (col 4 ln 14-15, Fig. 10). The remote unit also contains a transmitter unit (Fig. 8) for two-way satellite communication.

Bradshaw further teaches that the hub uses standard DVB format data frames (col 3 ln 47-49). Its inherent that the receiver must contain MAC to DVB converter (col 12, ln 38-40) to conform to the DVB protocol format that is supported by the hub (col 3 ln 49).

Bradshaw further teaches RF receiver coupled to an antenna to permit exchange of data between remote terminal and the satellite (Fig. 10). This is interface between the terminal and satellite to permit exchange of data frames. The data frame conforms to the DVB protocol format, i.e. the return channel frame format (col. 3 ln 49).

The satellite-to-hub interface is inherent in the specification of Bradshaw. The hub station (Fig. 2, elmt 104) is shown with antenna and RF transmitter/receiver (inherent). These are components of the satellite-to-hub interface.

Bradshaw further teaches that the hub is connected to an external packet switched network (Fig. 2, elmt 24, col 4 ln 25-29), which in this case is Internet. Its inherent that the hub must be able to convert protocol data frame received over satellite link to requests to the content servers (col 5 ln 13-17).

Support for multi-layer protocol interface for hub-to-terminal interface is given by Bradshaw in that MPEG format data is packaged into a DVB protocol format (col 2 ln 66-67), and TCP/IP data is encapsulated into a Ethernet MAC data frame (col 7 ln 62-63).

Bradshaw does not explicitly disclose processors executing instructions to configure one or more of the interfaces.

However, Dillon teaches a satellite-based Internet access system. The system contains several elements, including an application server and interface, hybrid gateway and satellite gateway. A processor, executing instructions stored in memory may configure the gateway and interfaces (col 3 ln 59-62). It is thus inherent that the same processor operating under instructions stored in memory, can also configure the interfaces described in claim 25.

In view of this, having the system of Bradshaw and then given the teaching of Dillon, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw to incorporate the teachings of Dillon.

The motivation to combine is because it is straightforward to add the processor and memory described by Dillon to the system of Bradshaw to flexibly configure the interfaces as described.

Regarding claims 28, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claims 25, and Bradshaw further teaches that TCP/IP data is encapsulated into a MAC data frame (col 7 ln 62-63), and also the TCP/IP frames may be formatted within a DVB frame (col 8 ln 47-51).

Regarding claim 29, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claim 25, and Bradshaw

further teaches about IP (col 7 ln 62-63), a transmission protocol standardized by IETF and may be used for variety of interfaces including interfacing the receiver unit with the transmitter unit.

Regarding claim 32, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claim 25, and Bradshaw further teaches that the packet switched network is Internet (Fig. 2 elmt 24).

Claim 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw and Dillon as applied to claim 25 above, and further in view of Gernert.

Regarding claims 26, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claims 25.

These references do not explicitly disclose transmission of data bursts from terminal to host, the data bursts conforming to a bus standard of the host.

However, Gernert does teach several bus standards for connecting the host (col 10 ln 47-48). It is common knowledge that these buses can support bursty data in conformance with most video traffic patterns.

In view of this, having the combined system of Bradshaw and Dillon and then given the teaching of Gernert, it would have been obvious to one having ordinary skill in the

art at the time the invention was made to modify the system of Bradshaw and Dillon to incorporate the teachings of Gernert.

The motivation to combine is because Bradshaw discloses terminals connected to hosts via local area network **116**. This can be a standardized bus such as IEEE 802.6 (Distributed Queue Dual Bus (DQDB)) for conveying bursty traffic such as video. A standardized bus tailored for bursty real-time traffic such as video has the advantage of better performance characteristics.

Regarding claims 27, the combined system of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claims 25 and 26.

These references do not explicitly disclose a USB serial bus.

However, Gernert does teach about USB serial buses (col 10 ln 47-48).

In view of this, having the system of Bradshaw and Dillon and then given the teaching of Gernert, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw and Dillon to incorporate the teachings of Gernert.

The motivation to combine is because Bradshaw discloses terminals connected to hosts via local area network **116** (Fig. 2). This could be a USB serial bus as taught by Gernert.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw and Dillon and as applied to claim 25 above, and further in view of Birdwell.

Regarding claim 30, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claim 25.

These references do not explicitly disclose big/little endian data formats.

However, Birdwell teaches endian formats for packets transmitted using IP over a satellite link (para.58, ln 5-13).

In view of this, having the system of Bradshaw and Dillon and then given the teaching of Birdwell, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw and Dillon to incorporate the teachings of Birdwell.

The motivation to combine is because endian formats aid in determining the start of 1<sup>st</sup> byte in the transmission words, so subsequently data alignment can be achieved, CRC calculations performed and payload retrieved.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw and Dillon as applied to claim 25 above, and further in view of Jorgensen.

Regarding claim 31, the combined method of Bradshaw and Dillon discloses all aspects of the claimed invention set forth in the rejection of claim 25.

These references do not explicitly disclose IGD packets.

However, Jorgensen does teach UDP (User Datagram Protocol) for transmission of packets over a wireless link (col 12 ln 46-48). The applicant states in the specification (p. 31 ln 6) that IGD packets are formed using UDP datagrams. Its inherent that UDP datagrams (IGD packets) can convey all sorts of parameters about the wireless link, including the return channel identifier and loading information.

In view of this, having the system of Bradshaw and Dillon and then given the teaching of Jorgensen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bradshaw and Dillon to incorporate the teachings of Jorgensen.

The motivation to combine is because UDP/IP packets can encapsulate all kinds of packets types, including IGD packets as described.

### ***Conclusions***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharif M Shahrier whose telephone number is (703) 305-870. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305-4798. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SMS



RICKY NGO  
PRIMARY EXAMINER